Cloud Service Models.

Important Notes

Identify yourself in Zoom, using your name and last name

Mute your microphone along the course unless you have questions

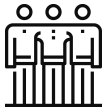
Raise the hand if you have questions during the session

Focus your questions on the presented topic

Turn off your camera in case of connection issues

DSA Code of Conduct

Be respectful, there are no bad questions or ideas.



Be welcoming and patient

Be careful in the words that you choose

Session Goal

At the end of this session, you will be able to:

- Become familiar with the different cloud service models available in Azure
- Understand the advantages of disadvantages about each type of service model.
- Get familiar with the basic tools for this cloud service models

Ricardo Valdez

- Senior Data Scientist
- @Rich Valdez

Table of Contents

Cloud Computing.

What is cloud computing and what is Cloud Service Models?

We can define it as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

They are service deployment models that let you choose the level of control over your information and types of services you need to provide.

The most common are:

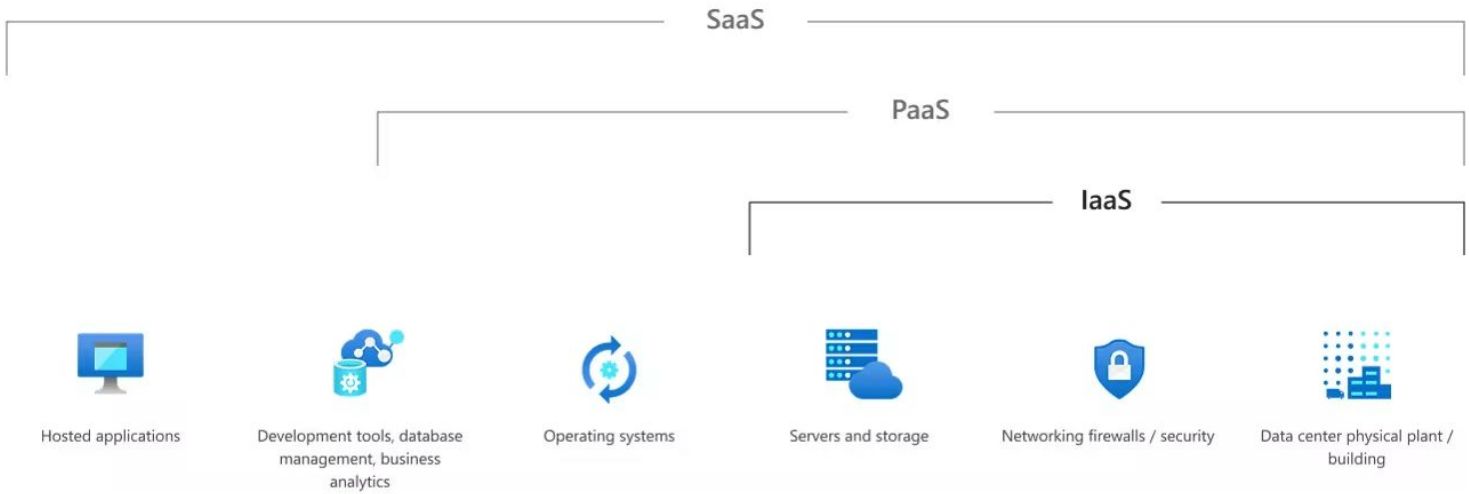
- Infrastructure as a Service (IaaS).
- Platform as a Service (PaaS).
- Software as a Service (SaaS).

Responsibility	SaaS	PaaS	IaaS	On-Prem	
Information and data	●	●	●	●	Customer responsibility
Devices	●	●	●	●	
Accounts and Identities	●	●	●	●	
Identities and Directory Infrastructure	◔	◔	●	●	Responsibility varies by service type
Applications	○	◔	●	●	
Network Controls	○	◔	●	●	
Operating Systems	○	○	●	●	
Physical Hosts	○	○	○	●	Responsibility moves to cloud provider
Physical Network	○	○	○	●	
Physical Datacenter	○	○	○	●	

Microsoft ○ Customer ●

Infrastructure as a Service.

Is a service model that delivers computer infrastructure on an outsourced basis to support various operations. Infrastructure means actual virtual servers that are provided by Azure and it is “as a Service” because you do not have to buy anything

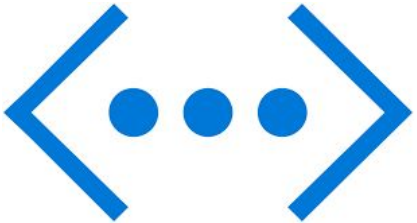


Essential compute, storage and networking resources on demand, on a pay-as-you-go basis are offered in this type of cloud computing service.

The pay-as-you-go basis could be by hour, week of month, and some providers also charge the customers on the amount of virtual machine space they use

Disk Storage

Virtual Machines



Virtual Networking

Common IaaS Business Scenarios

Lift-and-shift migration.

Without refactoring your architecture, you can increase the scale and performance, enhance the security, and reduce the costs of running and application or workload.

Test and development.

It is easy to quickly setup and dismantle test and development environments and this allows you to bring new applications to market faster.

Storage, backup and recovery.

Your organization does not need to worry about the capital outlay for storage and the complexity of storage management; IaaS is useful for handling unpredictable demand and steadily growing storage needs.

High performance computing.

High-performance computing on supercomputers, computer grids, or computer clusters helps solve complex problems involving millions of variables or calculations.

Advantages of IaaS

Reduces capital expenditures and optimizes costs.

The cost of configuring and managing a physical datacenter is eliminated, this makes a cost-effective choice for migrating to the cloud. And with the pay-as-you-go subscription.

Increases stability, reliability, and supportability.

There is no need to maintain and upgrade software and hardware or troubleshoot equipment problems. With the appropriate agreement, the service provider assures that your infrastructure is reliable and meets service-level agreements (SLAs)

Improves business continuity and disaster recovery.

Achieving high availability, business continuity, and disaster recovery is expensive because it requires a significant amount of technology and staff; with IaaS and the right SLA, we can reduce cost and access our applications and data as usual during a disaster or outage.

Enhances security

A cloud service provider can offer better security for your applications and data than the security you would attain in house.

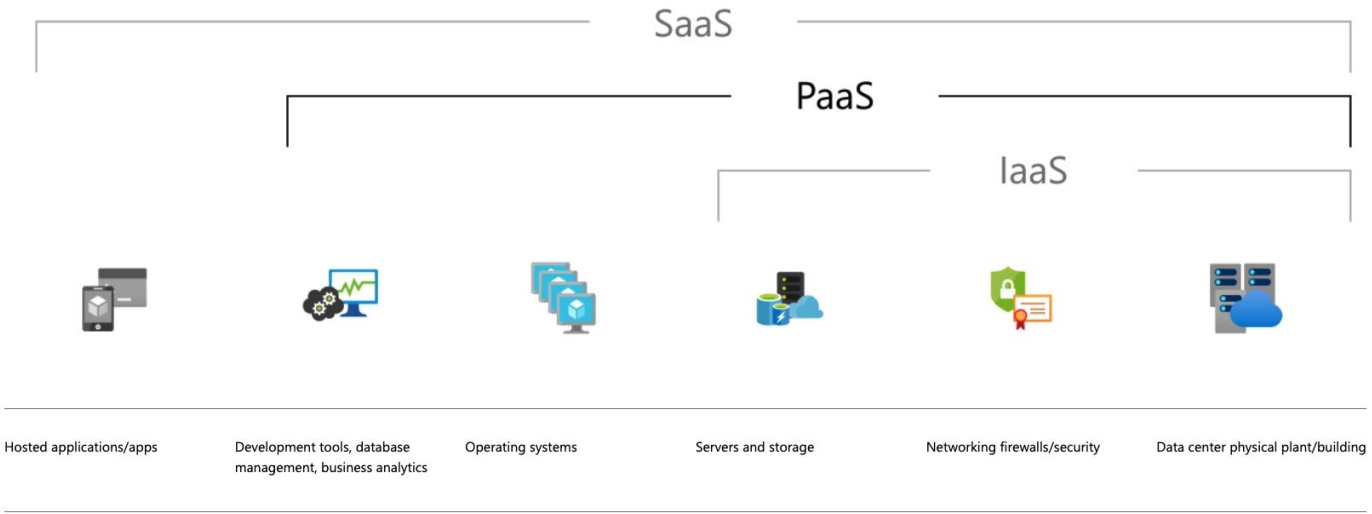
Innovation

Once you decided to launch a new product or initiative, the necessary computing infrastructure can be ready in minutes or hours, rather than in days or week

Platform as a Service.

What is a Cloud Service Model?

It provides a platform and environment to allow developers to build applications and services over the Internet. PaaS services are hosted in the cloud and accessed by users simply via web browser



Like IaaS, PaaS includes infrastructure elements like servers, storage and networking; but this type of service also includes:

- Middleware
- Development tools
- Business Intelligence services
- Database management systems.

It is designed to support the complete web application lifecycle:

- Building
- Testing
- Deploying
- Managing
- Updating

Azure App Service

Azure CDN (Content Delivery Network)

Azure CosmosDB

Common PaaS Business Scenarios

Development framework.

Developers can build upon or customize cloud-based application on the framework that PaaS provides because it gives the developers built-in software components

Analytics or business intelligence.

The tools provided allow organizations to analyze and mine their data, finding insights and patterns to improve forecasting, product design and other business decisions.

Additional services.

Services that enhance applications like security, scheduling and workflow are also provided in this service model.

Advantages of PaaS

Cuts coding time.

PaaS development tools can cut the time it takes to code new apps with pre-coded application components.

Add development capabilities without adding staff.

The development tools provided can give your dev team new capabilities.

Develop for multiple platforms more easily.

Some services provide you with development options for multiple platforms, such as computers, mobile devices and browsers, which makes applications easy to develop

Use sophisticated tools affordably

With the pay-as-you-go model, you can use and test sophisticated development software and business intelligence and analytics tools without purchasing them

Support geographically distributed development teams.

The development environment is accessed over the Internet, so, your team can work together on different projects even when they are not in the same location.

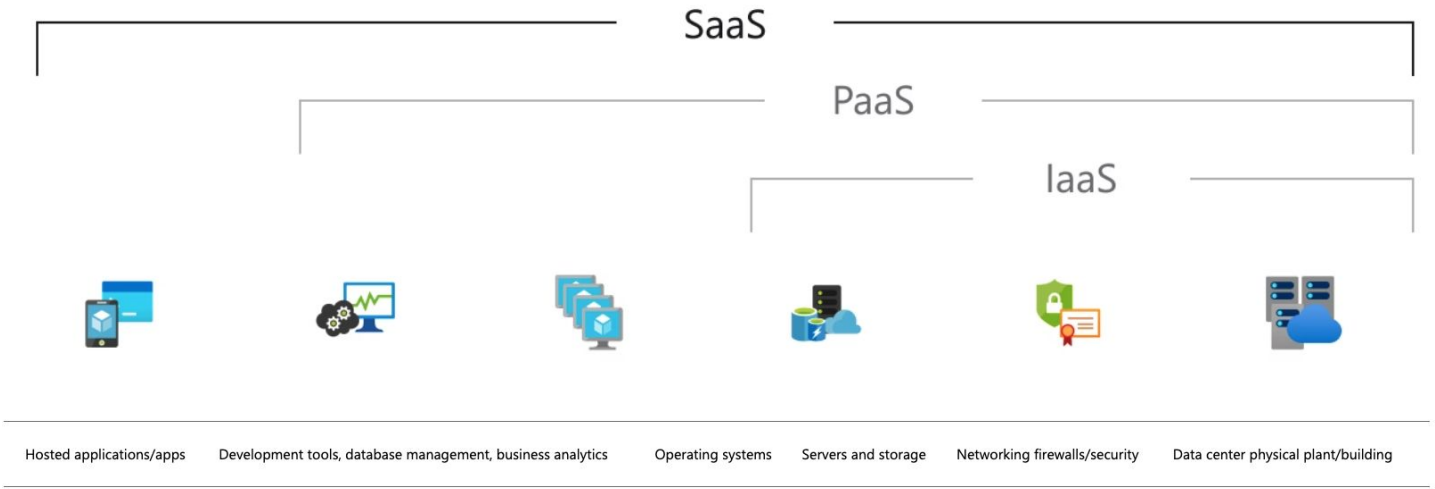
Efficiently manage the application lifecycle

PaaS provides all the capabilities to support the complete web application lifecycle: building, testing, deploying, managing and updating

Software as a Service.

What is a Cloud Service Model?

Allows users to connect and use cloud-based apps over the Internet and provides a complete software solution that you purchase on a pay-as-you-go basis



Common SaaS Business Scenarios

Common SaaS use cases

- Web-based email service
- Customer Relationship Management tools
- Enterprise Resource Planning
- Document Management

Azure SQL

Advantages of SaaS

Gain access to sophisticated applications.

You do not need to purchase, install, update, or maintain any hardware, middleware, or software. SaaS makes even sophisticated enterprise applications, such as ERP and CRM affordable for organizations.

Pay only for what you use.

SaaS service automatically scales up and down according to the level of usage, and this allows you to save money

Use free client software.

Users can run the SaaS apps directly from their browser without needing to download and install any software, although some apps require plugins

Mobilize your workforce easily.

You do not need to worry about developing apps to run on different types of computers and devices because the service provider has already done that

Access app data from anywhere

With data stored in the cloud, users can access their information from any Internet-connected computer or mobile device.

This does not mean there are not servers involved in the solution, it means you do not have to manage any servers and you will use someone else's server for your applications.

Azure Functions is the best known example of serverless service on Azure.

Serverless architecture takes PaaS to the most extreme by fully abstracting away the server in such a way that a single function of code can be hosted, deployed, run, and managed without even having to maintain a full application

Q & A

Please answer the survey form of this session:

https://docs.google.com/forms/d/e/1FAIpQLSf8tahLh_1_DA7B4rv10X0RGHLCrvOUEpnh04f9Trnk0LeWKg/viewform

www.wizeline.com

Thank you

proprietary + confidential